

to determine whether PDA mode is desired is by utilizing the timer control logic 422 portion of the IC 402 to trigger the PDA mode after a certain predetermined time has elapsed. In addition, yet another way to determine whether PDA mode is desired is by utilizing an application program or an operating system that provides such capability.

[0038] Once it is determined that the PDA mode is desired, the Mini-OS is loaded 508 in the PC system's memory 206, which may include its RAM. In the next step 510, the mini-OS initializes the system components including one or more of the CPU 203, host bridge 208, system memory 206, and IC 202. The system then waits for input from one of the function keys in the next step 512, until one of the function keys 306 is activated. At this point, the appropriate function is executed and the LCD display module 314 is updated, as appropriate, at step 514. Input signals may also be sent via the conventional keyboard 116 in some instances where so desired, and the output video display is preferably only via the PDA display 114, but may also be on the larger conventional display 118.

[0039] Those skilled in the art should recognize that although some of the above-described embodiments utilize a hardware-based OS selection, e.g., by activating the PC power up button 102 or the PDA power up button 104, other OS selection methods are contemplated as well. Such selection methods include, e.g., using a batch file or other scripting software-based method to shut down a first OS and boot to the second OS. Those skilled in the art will also recognize that the Mini-OS of the present invention could conceivably be implemented as part of a larger OS, e.g., a GUI-based OS, such as Windows®, LINUX, etc, or as a software component named something other than an "operating system," e.g., a "driver", an "algorithm", a "script", a "code", a "program", a "routine", a "subroutine", a "utility", etc, instead of being implemented as an entirely separate operating system. Such embodiments are contemplated to be within the scope of the present invention.

[0040] Those skilled in the art will also recognize a variety of software applications that may be utilized in the PDA operating mode that provide improvements over that found in traditional PCs or PDAs. Seven such applications include: 1) instant internet access; 2) wireless internet access; 3) scheduling applications; 4) address book applications; 5) low cost storage area for various digital devices; 6) voice recording applications, and 7) remote access. Each of these is addressed in more detail below. Again, this exemplary list is not exclusive and those skilled in the art will recognize a variety of other similar applications where the PDA operating mode of a PC consistent with the invention will provide improvements over that found in traditional PCs or PDAs.

#### [0041] 1. Instant Internet Access

[0042] With a traditional PC that is off, a user wishing to download information from the Internet must boot up the PC, invoke the internet browser, select the appropriate web site, search the web site for selected materials, and load it into the PC. With a PC including an instant Internet access software application consistent with the invention, the above steps may be simplified. For instance, the computer user may preset web site addresses and selected materials such as news, sport events, weather, stock prices, etc. that the user requires on a more frequent basis when the PC is operating

in PC mode. When the PC is off, the user may power up using the PDA power on button 104 that boots the PC very quickly compared to the PC boot up process. The instant Internet software application including the pre-selected web materials instructs the system to the pre-selected web sites and downloads the selected materials if Internet access to the web site is available. The LCD module 314 may display the information downloaded from the various web sites.

[0043] The required information to be downloaded from the web site may also be preset in the web site directly. In this case, an identification and authentication process may be required for the web site to properly identify a user. This could be done automatically between the web site and the application software, or by using security devices such as smart cards if highly confidential information is desired. Since the PC accesses the Internet for only a very short period of time in this PDA mode access instance, the non-essential PC components can be automatically turned off after information from the web site is downloaded to conserve power. However, the LCD module 314 may still have power to display the downloaded information which is stored in its internal memory buffer until the system wakes up again after receiving a wake up signal from system wake up control logic 310. Once the PC is woken up, new information from web sites may be downloaded and updated into the internal memory buffer of the LCD module 314.

[0044] A similar concept may also be applied to other applications such as downloading emails and instant messages. Application software can also program internal registers of the IC 302 to wake up the PC periodically to get the latest information, emails, or messages.

[0045] The audio interface 312 can also be used to provide text-to-voice capability so that end users can listen to emails, messages, or news data without looking into the LCD module 314.

#### [0046] 2. Wireless Internet Access

[0047] A PC consistent with the invention in PDA mode can also deploy wireless applications such as Bluetooth or 802.11 to access other devices or networks. The PC can boot up in the PDA mode and a wireless internet access software application may enable a user to download emails from a local file server through a wireless Local Area Network (LAN) or the Internet. The user may then use the function keys 306 to print out the emails from a wireless printer.

#### [0048] 3. Scheduling Applications

[0049] Most PDAs and PCs have a scheduling application that may also be used to provide reminders to a user about previously scheduled events or meetings. The reminder may be an alert message or an audible sound alerting the user that the event or meeting is coming up. However, for such reminder applications to properly function in a traditional PC, the PC has to be kept ON to keep the reminder feature functional. When the PC is a laptop, it would be impractical for battery life to keep the laptop ON solely for this function due to the limited battery capacity. In desktop PCs keeping the desktop on solely for this reminder function would be a drain on power consumption and may also cause an annoying noise from cooling fans of the desktop PC.

[0050] Advantageously, scheduling information including dates and times for reminders to issue may be preloaded into